



# HAMM COMPACTION METER (HCM)

## OVERVIEW:

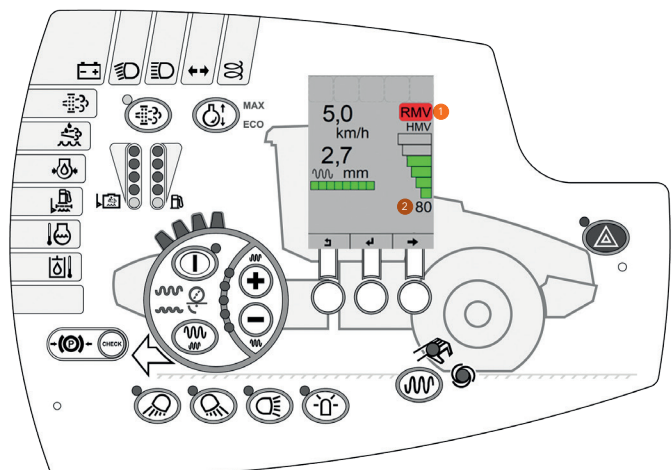
- ◇ Available on the HC CompactLine, HC, HD CompactLine, HD+, HX series
- ◇ Module for measuring and displaying the rigidity of the substrate
- ◇ HAMM Compaction Meter, VIO: Option to measure the compaction in the vibration and oscillation mode; available for H 7i VIO, HC 70i VIO, H 13i VIO and HC 130(i) VIO.
- ◇ Automatic activation for dynamic compaction
- ◇ Measurement via the acceleration sensor on the vibrating drum
  - > Recording the drum acceleration
  - > Evaluating the proportion of the soil reaction
  - > Continuous calculation of a relative rigidity value
  - > Display as a HAMM Measurement Value (HMV)
  - > Calibration for continuous compaction control, e.g. via static or dynamic load plate

## BENEFITS:

- ◇ No risk of over-compaction
- ◇ Fast localisation of positions with high demand for compaction or material that cannot be compacted
- ◇ Reduction in overrunning and therefore in the work time thanks to the detection of sufficiently compacted positions = cost reduction
- ◇ Reduced particle crushing, no re-loosening
- ◇ Maximum, efficient and homogeneous compaction


## DISPLAY ON THE EXAMPLE OF THE HC SERIES:

- ◇ RMV warning indicator (Resonance Meter Value: yellow = drum about to jump position; red = drum in jump operation) <sup>1</sup>
- ◇ HMV Value <sup>2</sup>



**BASIC REQUIREMENTS FOR CONTINUOUS COMPACTION CONTROL MEASUREMENTS:**

- ◇ Homogeneous and identical material
- ◇ Constant frequency
- ◇ Constant water content
- ◇ Constant dumping height
- ◇ Constant working speed
- ◇ Measurement only in one direction of travel
- ◇ Constant amplitude



Changing a parameter causes the measured values to be changed.

**INTERPRETATION OF THE HMV VALUES:**

<b>Increasing values</b>	Material can also be compacted
<b>Constant values</b>	Maximum compaction is reached (using this roller) <b>Recommendation:</b> Switchover to small amplitude or oscillation, or stop compaction ⚠️ Additional passes may result in re-loosening and destruction of the material
<b>Decreasing values</b>	Re-loosening of the material <b>Possible cause:</b> Material cannot be compacted (e.g. proportion of water is too high) Low values as an indicator of less compacted positions
<b>Jump operation</b>	⚠️ Switchover to small amplitude or to the oscillation and/or stop compaction ⚠️ <b>Possible damage to the machine in jump operation</b>

**TIPS AND GUIDE VALUES:**

Types of ground	Compaction	Recommended range for HMV values	Rigidity (asphalt) and/or load-bearing capacity (earthworks)
Silty / clayey soils with <b>excessive</b> water content	Big amplitude Maximum frequency Speed: 2-2.5 km/h	0 - 5	Low
Silty / clayey soils with <b>correct</b> water content	Big amplitude Maximum frequency Speed: 2-2.5 km/h	5 - 15	Low
Sandy / gravelly soils	Small amplitude Reduction in frequency by 5-8 Hz (only possible with Hammtronic!) Speed: 2.5-3 km/h	15 - 30	Medium
Frost protection / base course material / hydraulically bound support layer	Small amplitude Reduction in frequency by 5-8 Hz (only possible with Hammtronic!) Speed: 2.5-3.5 km/h	30 - 50	High
Rock	Small amplitude Reduction in frequency by 5-8 Hz (only possible with Hammtronic!) Speed: 2.5-3.5 km/h	50 - 100	Very high